

and providing to said computer X-ray data corresponding to the intensity of transmitted radiation,

over the area of the thus-exposed ensemble, calculating a value characteristic of said target object of said specific material of interest in said ensemble of objects, and therewith identifying said target object,

systematically utilizing in said calculations X-ray transmission data of rays from said stationary X-ray exposure system passing through said ensemble of objects, including rays passing through said target object of said specific material of interest as well as rays passing near but not through said target object to remove the contribution of overlying and underlying material from the calculated value characteristic of said target object of said specific material of interest, and

automatically indicating the presence of said target object while said ensemble of objects progresses on said conveyor,

and wherein the calculating step further includes choosing at least one target region and successively examining a plurality of regions in the neighborhood of said at least one target region.

85. (Amended) The method of claim 82 wherein said ensemble is exposed to x-ray radiation of [at] more than one energy delivered along at least one substantially common path to produce said x-ray data [and the resulting data at more than one energy is used in calculating said value characteristic of said target object of said specific material of interest].

In claim 86, replace "85" with --82--.

In claim 99, delete "are deployed to also".

111. (Amended) The method of claim 85 wherein said x-ray exposure system emits alternately pulses of x-ray radiation of two substantially different x-ray energies from at least one common x-ray source.

112. (Amended) The method of claim 85 wherein said x-ray exposure system includes at least one common x-ray source that emits polychromatic x-ray radiation, and said x-ray detection system includes two sets of x-ray detectors that detect x-ray radiation of respectively different x-ray energies received along said common path.

115. (Twice Amended) A device for detecting a target object of a specific material of interest in a continuously moving ensemble of initially unidentified objects, comprising a conveyor arranged to move said ensemble of objects continuously through an inspection station,

a stationary X-ray exposure system and a stationary X-ray detection system both constructed to operate cooperatively with said conveyor, and a computer operatively connected to said detection system,

said stationary X-ray exposure system constructed and positioned to progressively expose, at said inspection station, said ensemble of initially unidentified objects to X-ray radiation by continuous movement of said ensemble through beam-form x-ray radiation of more than one energy [a beam] produced by said X-ray-exposure system,

said stationary X-ray detection system positioned to detect X-ray radiation transmitted through said ensemble of objects, and constructed to provide to said computer X-ray data corresponding to the intensity of transmitted radiation,

said computer programmed to calculate, over the area of the thus-exposed ensemble, a value characteristic of said target object of said specific material of interest in said ensemble of objects, and therewith identifying said target object,

said computer programmed to systematically utilize in said calculations X-ray transmission data of rays from said stationary X-ray exposure system passing through said ensemble of objects, including rays passing through said target object of said specific material of interest as well as rays passing near but not through said target object to remove the contribution of overlying and underlying material from the calculated value characteristic of said target object of said specific material,

said computer programmed so that the removal of the contribution of overlying and underlying material from said calculated value is dependent upon determining an edge of the target object, and

said computer programmed to indicate the presence of said target object.

118. (Amended) The device of claim 115 wherein said x-ray exposure system is constructed to expose said ensemble to x-ray radiation of [at[ more than one energy delivered along at least one substantially common path to produce said x-ray data and the computer is programmed to employ resulting data at more than one